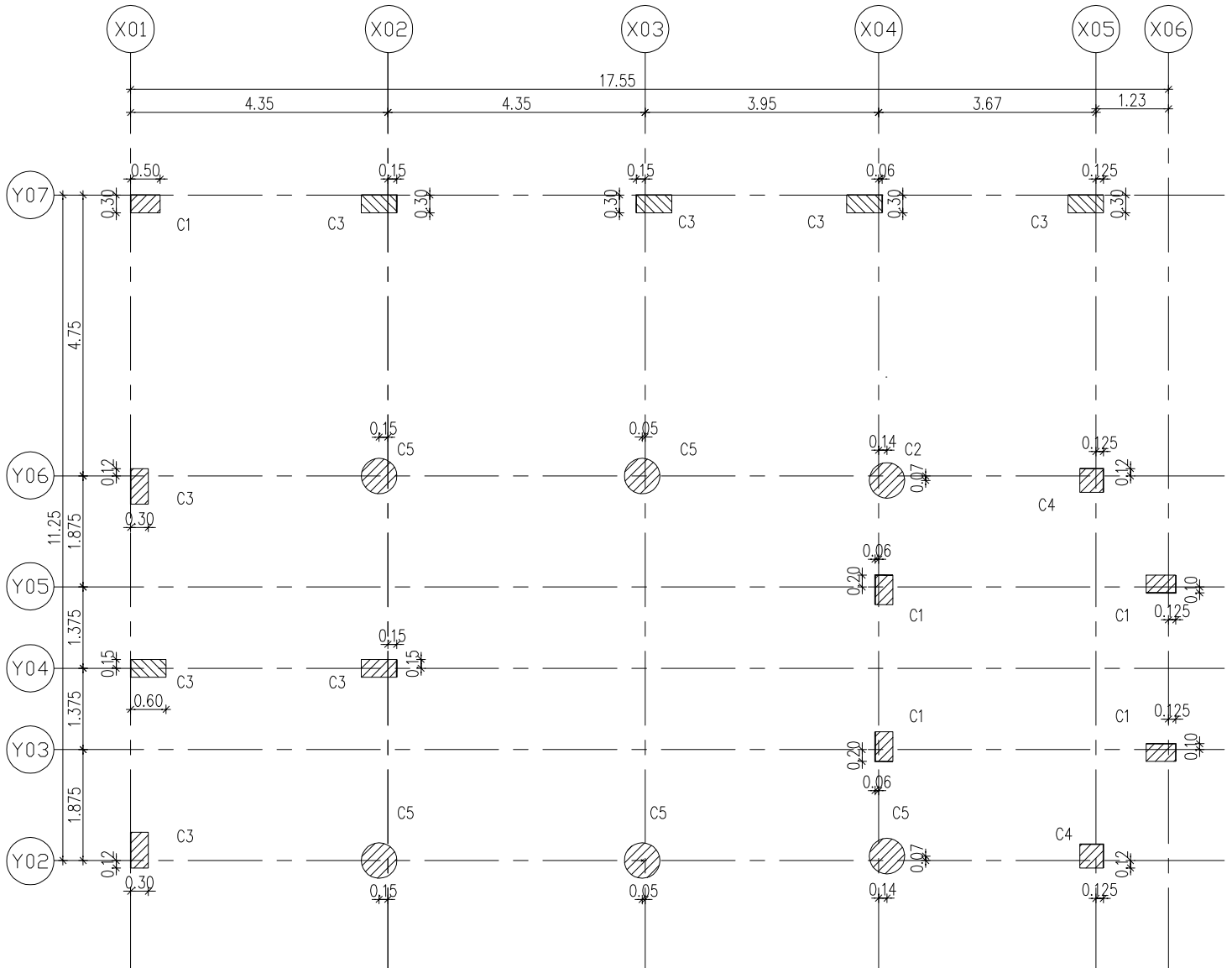


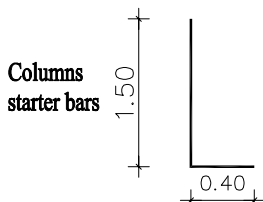
The following figure presents the columns layout of a villa (17.55m X 11.25m). The villa consists of 4 Floors, the ground story height is 5.0m from the foundation level while the typical floor is 3.0m high. It is required to calculate the amount of reinforcement for casting columns from the foundation level to the roof level. Using the reinforcement details in the attached column schedule. And draw the columns layout using the AutoCAD program.



COLUMNS AND AXES

SC. 1/100

Notes:-



Rebars Weight	
Diameter	Unit Wt (kg/m)
φ 8	0.394
φ 10	0.617
φ 12	0.888
φ 14	1.208

Diameter	Unit Wt (kg/m)
φ 16	1.578
φ 18	1.998
φ 20	2.466
φ 22	2.984
φ 25	3.853

* Concrete grade
 For Plain Concrete $f_{cu}=20 \text{ N/mm}^2$
 For Reinforcing Concrete $f_{cu}=30 \text{ N/mm}^2$

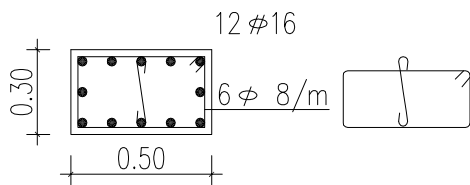
LOCATION	CLEAR COVER
FOUNDATION	75 mm
BEAMS AND COLUMNS	30 mm
SLABS	25 mm

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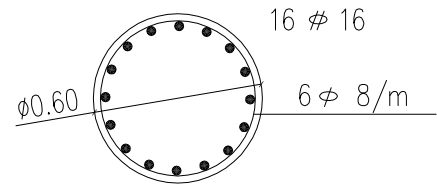
Columns Schedule

Foundation depth = 0.60 m

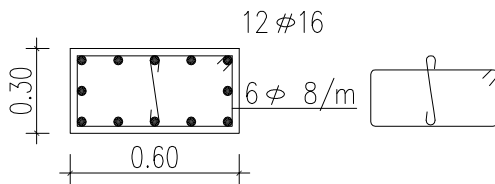
Column Floor	C1		C2		C3		C4		C5	
	Section	RFT	Section	RFT	Section	RFT	Section	RFT	Section	RFT
Basement floor	30x50	12 # 16	∅ 60	16 # 16	30x60	12 # 16	40x40	16 # 12	∅ 60	16 # 18



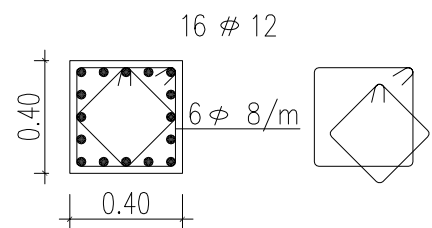
C1
scale 1:25



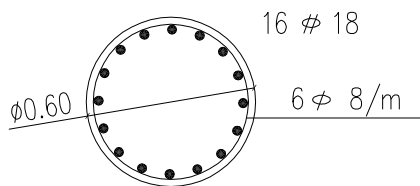
C2
scale 1:25



C3
scale 1:25

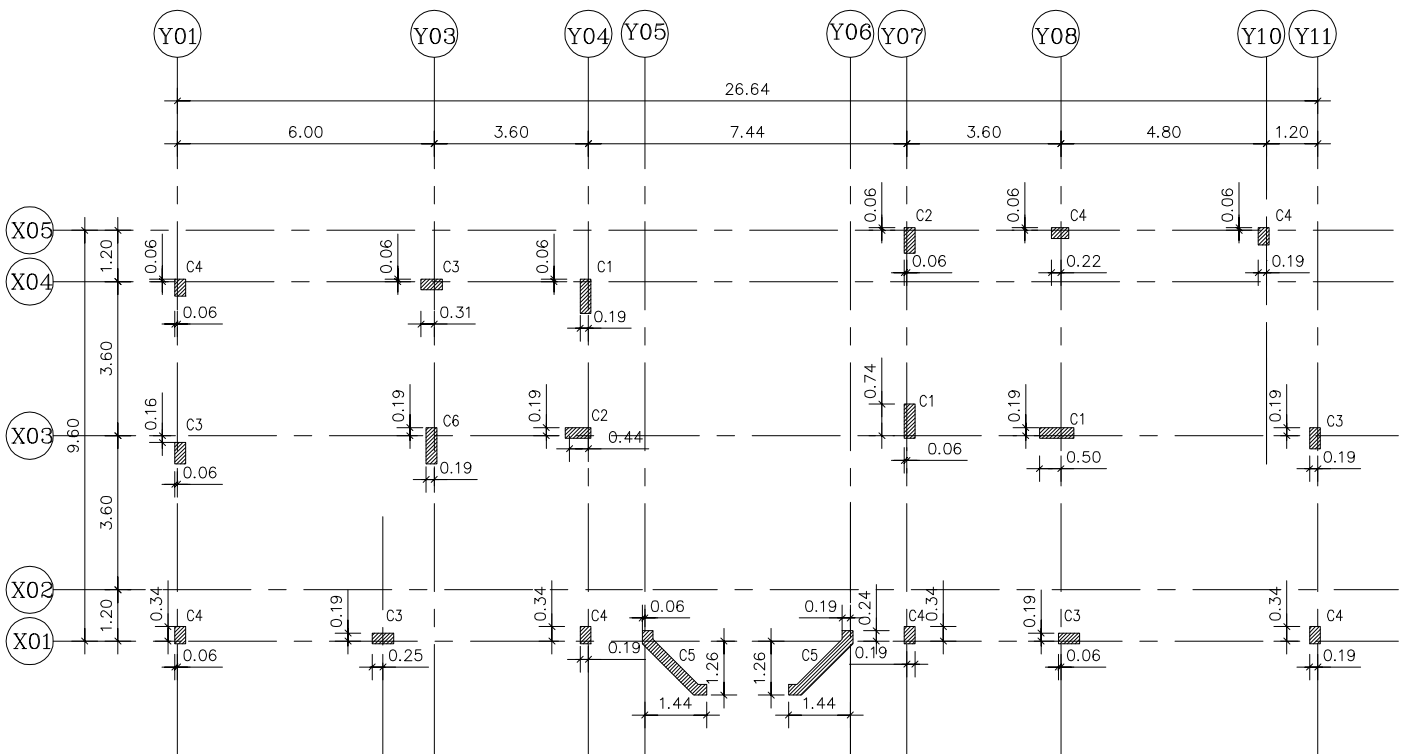


C4
scale 1:25



C5
scale 1:25

The following figure presents the columns layout of an Accommodation . The building consists of 3 Floors, the ground story height is 4.5m from the foundation level while the typical floor is 3.5m high. It is required to calculate the amount of reinforcement for casting columns from the foundation level to the roof level. Using the reinforcement details in the attached column schedule. And draw the columns layout using the AutoCAD program.

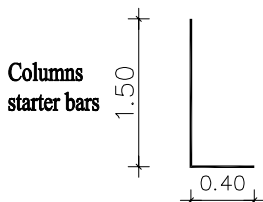


COLUMNS AND AXES

sc. 1/100

Foundation depth = 0.60 m

Notes:-



Rebars Weight	
Diameter	Unit Wt (kg/m)
φ 8	0.394
φ 10	0.617
φ 12	0.888
φ 14	1.208

Diameter	Unit Wt (kg/m)
φ 16	1.578
φ 18	1.998
φ 20	2.466
φ 22	2.984
φ 25	3.853

* Concrete grade
 For Plain Concrete $f_{cu}=20 \text{ N/mm}^2$
 For Reinforcing Concrete $f_{cu}=30 \text{ N/mm}^2$

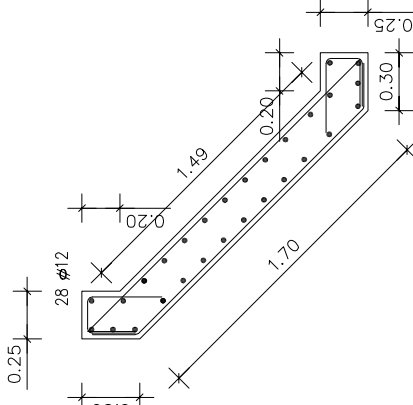
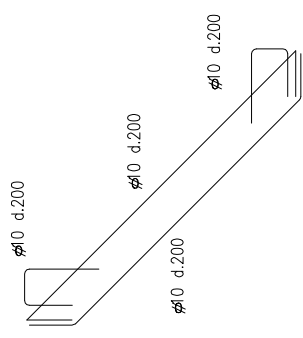
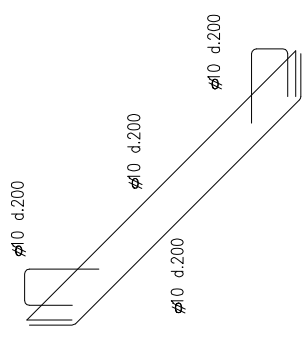
LOCATION	CLEAR COVER
FOUNDATION	75 mm
BEAMS AND COLUMNS	30 mm
SLABS	25 mm

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SCHEDULE FOR COLUMNS sc. 1/25

LEVEL TYPE	FROM FOUNDATION LEVEL TO LEVEL (+4.50)	FROM LEVEL (+4.50) TO LEVEL (+8.00)	FROM LEVEL (+8.00) TO LEVEL (+11.50)
C1			
C2			
C3			
C4			

SCHEDULE FOR COLUMNS SC. 1/25

LEVEL TYPE	FROM FOUNDATION LEVEL TO LEVEL (+4.15)	FROM LEVEL (+4.15) TO LEVEL (+7.25)	FROM LEVEL (+7.25) TO LEVEL (+10.35)
C5			
C6	